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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,528	01/27/2004	Michael Wortman	200208003-1	5526

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EXAMINER

CHANDRAN, BIJU INDIRA

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.P

Office Action Summary	Application No.	Applicant(s)	
	10/767,528	WORTMAN ET AL.	
	Examiner	Art Unit	
	Biju Chandran	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/23/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

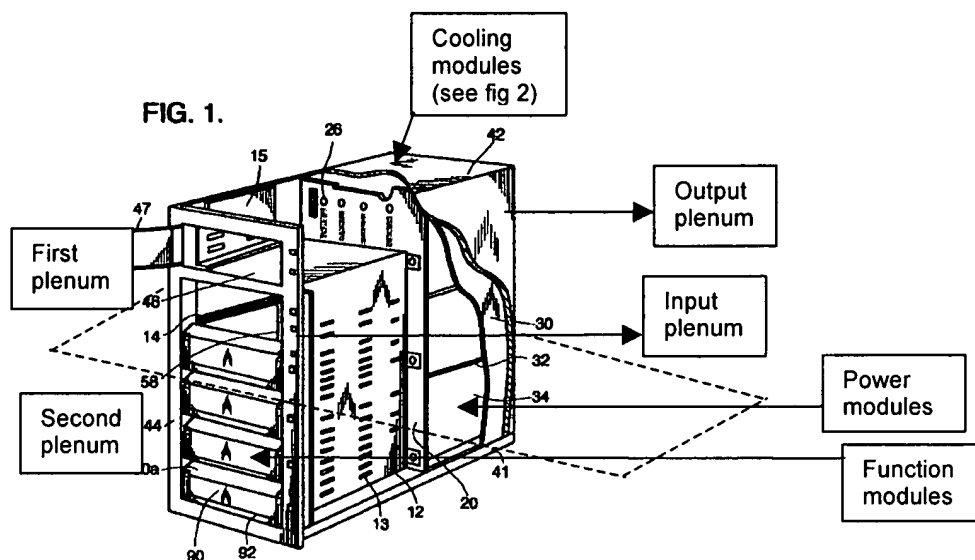
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5, 7-13, 15-18, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (US Patent 6,018,456), in view of Grouell et al. (US Patent 5,912,799).

- Regarding claim 1, Young et al. disclose an electronic system comprising: an enclosure (10), and a backplane (20) coupled inside the enclosure and having a plurality of slots (22, 24) capable of receiving a plurality of modules (34,35,39), the modules including power modules (34, 35), cooling modules (39), and function modules (column 3, line 10-20) being capable of plug insertion into a backplane slot (column 2, lines 38-39). Young et al. do not explicitly say that the backplane receives all power and signal connections from external to the enclosure via the modules rather than internal cabling. Grouell et al. teach a backplane that receive all power and signal connections from external to the enclosure via the modules rather than internal cabling (column 1, lines 45-50). At the time the invention was made, it would

have been obvious to a person of ordinary skill in the art to modify the electronic system as disclosed by Young et al. by incorporating the backplane as taught by Grouell et al., to reduce the of breaking connections during repeated module insertions and extractions.



- With respect to claim 2, Young et al. further disclose a plenum airspace including an input plenum and an output plenum.
- With respect to claim 3, Young et al. further disclose a cooling module (39) plug inserted into a backplane slot adjacent to a plenum airspace (column 6, lines 10-12).
- With respect to claim 4, Young et al. further disclose at least one module including power modules and function modules, and having an unobstructed airway between the input plenum and the output plenum (column 3, 61-67).

- With respect to claim 5, Young et al. further disclose at least one module including power modules and function modules having a substantially common height and depth and being an integral number of slots wide to enable both a flexible number and type of module within the enclosure, the power modules and function modules being capable of plug insertion into the same backplane slots.
- With respect to claim 7, Young et al. further discloses at least one display and control module plug (126, 127, Figure 12) inserted into at least one backplane slot (column 7, lines 55-58) and comprising a user interface for display and input functionality (column 2, lines 63-65), the at least one display and control module having a height and depth substantially common with the height and depth of function modules and being capable of plug insertion into backplane slots in common with other function modules and power modules.
- With respect to claim 8, Young et al. further discloses at least one function module plug inserted into at least one backplane slot, the function modules being selected from among a group comprising graphics modules, input/output (I/O) modules, Uninterrupted Power Supply (UPS) modules, storage modules, server modules, switch modules, processor modules, memory modules, and combinational modules combining functionality of a plurality of function modules (column 4, line 60- column 5, line 2).

- With respect to claim 9, Young et al. disclose an electronic system comprising: an enclosure (10); and a backplane having first and second planar sides (20), the backplane intersecting the enclosure and having a plurality of slots on both the first (22) and second planar sides (24) capable of receiving a plurality of modules (34, 35, 39), the modules including a plurality of module types and functionalities. Young et al. do not explicitly disclose that the backplane receives all power and signal connections from external to the enclosure via the modules rather than internal cabling. Grouell et al. teach a backplane that receive all power and signal connections from external to the enclosure via the modules rather than internal cabling (column 1, line 45-50). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the electronic system as disclosed by Young et al. by incorporating the backplane as taught by Grouell et al., to eliminate wire clutter in the enclosure and reduce the possibility of accidentally breaking connections during repeated module insertions and extractions.
- With respect to claim 10, Young et al. further disclose modules that include power modules (34) and function modules (90) with substantially common height and depth and being an integral number of slots wide.

- With respect to claim 11, Young et al. further disclose a first plenum airspace on a first end of the backplane and a second plenum airspace on a second end of the backplane, the first plenum including an input plenum and an output plenum so that cooling air circulates from the input plenum through modules on the first side of the backplane, through the second plenum, through modules on the second side of the backplane, and to the output plenum (column 3, lines 60-67).
- With respect to claim 12, Young et al. further discloses at least one cooling module (39) plug inserted into a backplane slot (column 6, line 10) of the plurality of backplane slots adjacent to the first plenum airspace.
- With respect to claim 13, Young et al. further discloses a plurality of modules including power modules (34,35) and function modules (shown in figure) arranged in slots inserted into the first and second sides of the backplane, and having an unobstructed airway (column 3, line 60, figure 11) between the input plenum and the output plenum, the power modules and function modules being capable of plug insertion into the same backplane slots.
- With respect to claim 15, Young et al. further discloses at least one display and control module plug (126, 127, Figure 12) inserted into at least one backplane slot (column 7, lines 55-58) and comprising a user interface for display and input functionality (column 2, lines 63-65), the

at least one display and control module having a height and depth substantially common with the height and depth of function modules.

- With respect to claim 16, Young et al. further discloses at least one function module plug inserted into at least one backplane slot, the function modules being selected from among a group comprising graphics modules, input/output (I/O) modules, Uninterrupted Power Supply (UPS) modules, storage modules, server modules, switch modules, processor modules, memory modules, and combinational modules combining functionality of a plurality of function modules (column 4, line 60- column 5, line 2).
- With respect to claim 17, Young et al. disclose an electronic system comprising: an enclosure (10); and a backplane having first and second planar sides (20), the backplane intersecting the enclosure and having a plurality of slots on both the first (22) and second planar sides (24) capable of receiving a plurality of modules (34, 35, 39), a first plenum airspace on a first end of the backplane and a second plenum airspace on a second end of the backplane, the first plenum including an input plenum and an output plenum so that cooling air circulates from the input plenum through modules on the first side of the backplane, through the second plenum, through modules on the second side of the backplane, and to the output plenum (column 3, lines 60-67). Young et al. do not explicitly say that the backplane

receives all power and signal connections from external to the enclosure via the modules rather than internal cabling. Grouell et al. teach a backplane that receive all power and signal connections from external to the enclosure via the modules rather than internal cabling (column 1, lines 45-50). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the electronic system as disclosed by Young et al. by incorporating the backplane as taught by Grouell et al., to reduce wire clutter and the possibility of accidentally breaking connections during repeated module insertions and extractions.

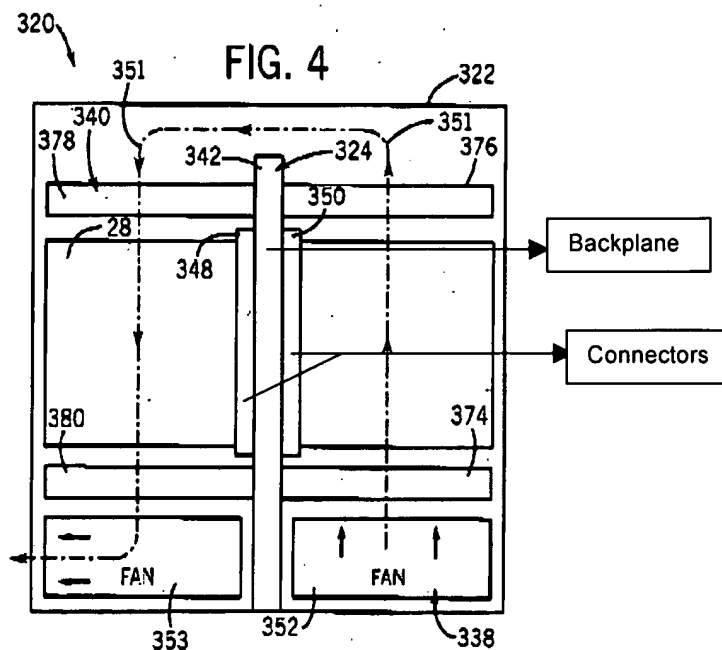
- With respect to claim 18, Young et al. further discloses at least one cooling module (39) plug inserted into a backplane slot (column 6, line 10) of the plurality of backplane slots adjacent to the first plenum airspace.
- With respect to claim 20, Young et al. further discloses a plurality of modules including power modules (34,35) and function modules arranged in slots inserted into the first and second sides of the backplane, the modules further comprising: an unobstructed airway (column 3, line 60, figure 11) between the input plenum and the output plenum, and at least one status light-emitting diode (LED) (55a, 55b) coupled a display panel (55) on the enclosure adjacent the module (column 2, lines 63-65).

- With respect to claim 22, Young et al. further discloses at least one display and control module plug (126, 127, Figure 12) inserted into at least one backplane slot (column 7, lines 55-58) and comprising a user interface for display and input functionality (column 2, lines 63-65), the at least one display and control module having a height and depth substantially common with the height and depth of function modules.
2. Claims 6, 14 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. in view of Grouell et al. as applied above, and further in view of Doustou III et al. (US Patent 6,392,872).
- With respect to claim 6, Young et al. as modified by Grouell et al. discloses all the limitations of claim 5, and further disclose at least one power module plug inserted into at least one backplane slot. The said power module having a height and depth substantially common with the height and depth of function modules and being capable of plug insertion into backplane slots in common with function modules.
- Young et al. do not explicitly disclose the power module having a power inlet for receiving system power in a configuration for alternating current (AC) power and direct current (DC) power. Doustou III et al. discloses a power supply module (73) (figure 5) suitable to be used with an electronic system having power inlets for receiving system power in a configuration for alternating current (AC) power (91-1) and

direct current (DC) power (91-2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the electronic system as disclosed by Young et al. by incorporating the power supply module taught by Doustou III et al., to supply requisite power to the electronic system.

- With respect to claim 14, Young et al. as modified by Grouell et al. discloses all the limitations of claim 9, and further disclose at least one power module plug inserted into at least one backplane slot. The said power module having a height and depth substantially common with the height and depth of function modules and being capable of plug insertion into backplane slots in common with function modules. Young et al. do not explicitly disclose the power module having a power inlet for receiving system power in a configuration for alternating current (AC) power and direct current (DC) power. Doustou III et al. discloses a power supply module (73) (figure 5) suitable to be used with an electronic system having power inlets for receiving system power in a configuration for alternating current (AC) power (91-1) and direct current (DC) power (91-2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the electronic system as disclosed by Young et al. by incorporating the power supply module taught by Doustou III et al., to supply requisite power to the electronic system.

- With respect to claim 21, Young et al. as modified by Grouell et al. discloses all the limitations of claim 17, and further disclose at least one power module plug inserted into at least one backplane slot. The said power module having a height and depth substantially common with the height and depth of function modules and being capable of plug insertion into backplane slots in common with function modules. Young et al. do not explicitly disclose the power module having a power inlet for receiving system power in a configuration for alternating current (AC) power and direct current (DC) power. Doustou III et al. discloses a power supply module (73) (figure 5) suitable to be used with an electronic system having power inlets for receiving system power in a configuration for alternating current (AC) power (91-1) and direct current (DC) power (91-2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the electronic system as disclosed by Young et al. by incorporating the power supply module taught by Doustou III et al., to supply requisite power to the electronic system.



3. Claim 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. in view of Grouell et al. as applied above, and further in view of Larson et al. (PGPub US2004/0252456 A1). Young et al. as modified by Grouell et al. satisfy all the limitations of claim 17. Young et al. do not explicitly disclose a first and second cooling modules plug inserted into respective first and second side backplane slots adjacent to the input plenum and the output plenum, respectively and arranged in a push-pull configuration. Larson et al. disclose a first and second cooling modules plug inserted into respective first and second side backplane slots adjacent to the input plenum and the output plenum, respectively and arranged in a push-pull configuration. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify

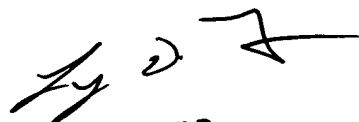
the electronic system as disclosed by Young et al. by incorporating the cooling modules on either side of the backplane as taught by Larson et al. to increase the efficiency of air flow through the enclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Biju Chandran whose telephone number is (571) 272-5953. The examiner can normally be reached on 8AM - 5PM. Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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